In the short term, the planned activities, 2,320 acres of vegetation treatment (1,750 acres of regeneration harvest/site preparation/reforestation, 570 acres of prescribed burn), 2 miles of temporary road construction, 26 miles of road conditioning and 19 miles of road reconstruction area would result in soil disturbance and, consequently, increase soil erosion. Increased soil disturbance and soil erosion would lead to an increase in invasive plants.

Integrated Pest Management (IPM) would be implemented prior to, during, and following the planned activities. IPM prescribes the control of invasive plants with herbicide, and the acreage measured (mapped). In the early stages of this project, herbicides will be used as the primary method to eradicate and control invasive plants (draft NPCNF Programmatic Weeds Biological Assessment 2020).

A component of IPM is the requirement that all equipment used in vegetation treatment, temporary road construction, road conditioning and road reconstruction to be inspected to confirm that it is weed free prior to use on the Green Horse project area.

Another component of IPM is the use of a native seed mix specific to the Nez Perce Clearwater National Forests. The seed mix would be seeded on disturbed soil areas to reduce soil erosion by providing soil cover and occupy disturbed soil areas, as opposed to those sites being occupied by invasive plants.

IPM also involves the release of biological control agents, creating insectaries, such as has already occurred in the Moose Creek area of the Selway River to control spotted knapweed. Efforts are underway to create an insectary to control rush skeletonweed. Over the long term, these insectaries will increase to control spotted knapweed and rush skeletonweed in the Green Horse project area.

One invasive plant that would increase due to soil disturbance is spotted knapweed. Research has shown that spotted knapweed dominated sites typically have more bare ground which directly leads to increased soil erosion (Lacey, John R., Marlow, Clayton B., Effects of Spotted Knapweed on Soil Erosion (1990)).

The proposed action would likely cause the spread of invasive species to some degree. However, invasive species are most likely to increase along roadways which can be easily monitored and treated. In addition, invasive species that are introduced to, or increase in density, proposed units post-harvest activities will eventually be replaced by native vegetation through succession and treated under the Early Detection Rapid Response (EDRR) protocol if identified as a high priority target species.

Although over all the Green Horse project anticipates potential erosion would limit limit the risk of sediment reaching streams (PACFISH buffers, see watershed analysis in the EA); generally, increased soil erosion directly causes degraded water quality (Germino et al. 2016), and indirectly results in degraded fish habitat. Similarly, invasive plants, such as spotted knapweed, orange hawkweed, and rush skeletonweed, directly displace native plants, thereby indirectly degrading habitat for wildlife that are dependent on native plants for critical forage and cover.

In the short term, cumulative impacts from the planned activities would increase soil erosion resulting in increased areas of invasive plants. However, as noted above, IPM would be implemented prior to, during, and following activities causing soil disturbance and result in control of invasive plants.

In the long term, the reasonably foreseeable cumulative effects of the planned activities would decrease as invasive plants are controlled by the use of IPM. Also, wildfires create increased areas of bare ground, thereby increasing soil erosion and the potential for invasive plants to invade and occupy disturbed soil areas. The planned activities would create forest vegetation that is resistant to wildfires, thereby, reducing the potential for invasive plants to become established.

Past and present disturbances associated with vegetative treatments (grazing, recreation, fire), added to reasonably foreseeable actions (grazing and recreation), would create over the next 3 to 5 years a cumulative threat of weed expansion through distribution of weed seed, ground disturbance, and creation of spread pathways. The risk of weed expansion would be reduced with the implementation of the design feature and mitigation measure under the proposed action as disturbed surfaces recover to desirable vegetation.